WHAT WE CLAIM IS:

1. A hologram plate comprising an array of a transmission type of collective element holograms that diffract parallel light incident thereon at a specific wavelength and a specific incident angle in such a way that the parallel light is converged on a specific focal length position, which comprises a multilayer structure made up of a first transparent substrate, a hologram layer, an adhesive layer and a second transparent substrate, said second transparent substrate defining a surface in contact with a hologram photosensitive material when hologram replication is carried out.

2. The hologram plate according to claim 1, wherein said second transparent substrate has a thickness substantially double the focal length of each collective element hologram, inclusive of the thickness of said adhesive layer.

3. The hologram plate according to claim 1, wherein between said hologram layer and said adhesive layer there is interleaved a water-soluble protective layer.

4. The hologram plate according to claim 3, wherein said second transparent substrate has a thickness substantially double the focal length of each collective element hologram, inclusive of the thicknesses of said adhesive layer and said water-soluble protective layer.

5. The hologram plate according to any one of claims 1 to 4, wherein said hologram layer has a diffraction efficiency preset in such a way as to allow zero-order light

and first-order light diffracted by said hologram layer to have substantially the same intensity.

6. The hologram plate according to any one of claims 1 to 5, wherein an absorbing layer is located at any desired position between said hologram layer and said second transparent layer, and a light-absorbing material is dispersed throughout said absorbing layer in such a way so as to allow zero-order light and first-order light diffracted by said hologram layer to have substantially the same intensity.

7. The hologram plate according to any one of claims 1 to 5, wherein an absorbing layer is located on the surface of said second transparent layer, and a light-absorbing material is dispersed throughout said absorbing layer in such a way so as to allow zero-order light and first-order light diffracted by said hologram layer to have substantially the same intensity.

8. A process for fabricating a hologram plate comprising an array of a transmission type of collective element holograms that diffract parallel light incident thereon at a specific wavelength and a specific incident angle in such a way that the parallel light is converged on a specific focal length position, said hologram plate comprising a multilayer structure made up of a first transparent substrate, a hologram layer, an adhesive layer and a second transparent substrate, and said second transparent substrate defining a surface in contact with a hologram photosensitive material when hologram replication is carried out, wherein:

said adhesive layer comprises an ultraviolet curing adhesive agent,

said multilayer structure, obtained by forming said hologram layer on said first transparent substrate and then superposing said second transparent substrate on said hologram layer with an uncured ultraviolet curing adhesive agent interleaved therebetween, is spun to spin an extra portion of said adhesive agent out of the periphery thereof, thereby making said adhesive layer uniform, while the rpm of said multilayer structure is controlled to obtain a desired thickness, and

said multilayer structure is irradiated with ultraviolet radiation through said first transparent substrate or said second transparent substrate to cure said adhesive agent.

9. The hologram plate fabrication process according to claim 8, wherein said hologram is exposed to p-polarized light.

10. The hologram plate fabrication process according to claim 8, wherein said hologram is exposed to s-polarized light.

11. A hologram plate comprising a plurality of juxtaposed unit hologram segments, wherein:

one common transparent thin sheet is provided over the surfaces of said plurality of juxtaposed unit hologram segments with an adhesive agent interleaved therebetween.

12. The hologram plate according to claim 11, wherein each unit hologram segment comprises a transparent substrate, a photosensitive material layer formed thereon while a

hologram is recorded therein, and a protective layer formed on said photosensitive material layer.

13. The hologram plate according to claim 12, wherein a transparent thin sheet is bonded onto said protective layer for each unit hologram segment.

14. The hologram plate according to any one of claims 11 to 13, wherein said plurality of unit hologram segments are hologram segments replicated from the same hologram plate.

15. The hologram plate according to any one of claims 11 to 14, wherein each unit hologram segment comprises a hologram color filter.

16. A process for fabricating a hologram plate comprising a plurality of juxtaposed unit hologram segments and one common transparent sheet provided over the surfaces of said unit hologram segments with an adhesive agent interleaved therebetween, which comprises steps of:

preparing a plurality of unit hologram segments,

adsorbing a transparent thin sheet onto the surface of a reference plate and laminating said plurality of unit hologram segments, in juxtaposed relation to each other, on said transparent thin sheet with an adhesive agent interleaved therebetween,

bonding a base plate onto the back side of said plurality of juxtaposed unit hologram segments with an adhesive agent interleaved therebetween, and

desorbing said transparent thin sheet from said reference plate to release said transparent thin sheet from said reference plate.

17. The hologram plate fabrication process according to claim 16, wherein at the step of preparing a plurality of unit hologram segments, said plurality of unit hologram segments are hologram segments replicated from the same hologram plate.

18. A hologram plate comprising a hologram layer with interference fringes formed thereon, a first layer capable of being removed with water or a solvent, which is provided on the surface of said hologram layer or a transparent layer formed thereon, and a second layer of a curing resin capable of being cured by light or heat, which is formed on said first layer.

19. The hologram plate according to claim 18, wherein said hologram layer is an amplitude type hologram layer with a metal film patterned thereon.

20. The hologram plate according to claim 18, wherein said hologram layer is a hologram layer comprising a hologram photosensitive material layer with interference fringes recorded therein.

21. The hologram plate according to any one of claims 18 to 20, wherein said first layer is capable of absorbing light.

22. The hologram plate according to any one of claims 18 to 21, which comprises a transmission type hologram.

23. The hologram plate according to any one of claims 18 to 21, which comprises a reflection type hologram.